Environmental Protection Agency

The Environmental Protection Agency (EPA) provides funding for Total Maximum Daily Load (TMDL) development, the Clean Water Act Section 319 (non-point source) program, state water-quality standards development, the Clean Water State Revolving Fund (SRF) programs, and special projects as funded by Congress. These programs are implemented through the Vermont Agency of Natural Resources (VT ANR) and the New York Department of Environmental Conservation. Funding is provided for upgrading wastewater treatment facilities throughout the Lake Champlain Basin to reduce phosphorus from point sources. Interested parties can contact these agencies for the availability of funds. Loans have been awarded through the SRF in New York and Vermont.

Additionally, EPA is funding several initiatives to control stormwater and septic system pollution. For example, in the Potash Brook watershed, EPA is funding a grant that will demonstrate innovative stormwater and stream stabilization practices. Work in this small watershed will involve several partners, including the City of South Burlington, the VT ANR, and the University of Vermont (UVM), and will include a public education component. EPA is also funding stormwater research by the UVM that will result in stormwater management tools for individuals, developers, municipalities and policy makers. EPA is funding another stormwater project in Chittenden County, as well as an onsite wastewater demonstration project.

Natural Resources Conservation Service

The Natural Resource Conservation Service (NRCS) provides technical and financial assistance to farmers and other rural landowners to protect and restore natural resources such as water quality.

Under the Farmland and Ranchland Protection Program (FRPP) NRCS provides funds to the Vermont Housing and Conservation Board and the Vermont land trusts to purchase the development rights on farmland. Since urban built-up land contributes more non-point phosphorous pollutants than does agricultural land, this program will help to avoid increases in phosphorous loading to the Lake. Since 1997 FRPP has provided $13,017,210 (matched with state and land trust dollars) for the conservation of 30,304 acres of farmland located in the Lake Champlain Basin.

In New York FRPP provided $278,010 for the purchase of development rights on the 1,615 acre Rovers Farm in Chazy. The funding will be matched with state dollars to purchase a perpetual conservation easement to ensure that the land will stay in farming forever.

The Environmental Quality Incentives Program (EQIP) provides financial and technical assistance to agricultural producers to protect water quality and other natural resource concerns. From 2004 to 2006 NRCS provided $8,498,000 in funding for this program in the Vermont portion of the Lake Champlain Basin. Higher priority was given to impaired waters, and $4,558,000 or 53% of the total funding for the Basin was allocated to the Missisquoi and St. Albans Bay watersheds. Much of the money was allocated for animal waste management practices such as manure storage and nutrient management. During this three year period a total of approximately 18,000 acres of nutrient management was applied in the Basin due to EQIP.

Over the last three years, $1,784,945 in EQIP federal financial assistance has been provided to farmers in the Lake Champlain Basin in New York. These funds are used for the construction of best management practices such as erosion control practices, manure storage structures, milkhouse waste treatment systems, barnyard water management systems and implementation of nutrient and pest management practices in the Basin. As a result of this program, NRCS staff provided technical assistance for the following practices which have been installed on the New York side of the Basin:

Four Concentrated Animal Feeding Operations (CAFO) size manure storages in Clinton County and two CAFO size manure storages in Washington County—the storages allow farmers to manage their manure in accordance with nutrient management guidelines, and their Comprehensive Nutrient Management Plan (CNMP);

Four covered barnyards in Clinton County—the “roof structures” keep outdoor livestock loafing areas dry, preventing rainfall and runoff from washing nutrients from the barnyard;

12,350 feet of diversions and grassed waterways—diverting clean water away from barnyards and filtering out sediment and nutrients from runoff;

225 acres of strip cropping—reducing erosion and improving soil organic matter and soil health;

500 acres of new rotational grazing systems in Clinton and Essex Counties—livestock harvest forages and disperse animal manures to the land in a sustainable process; new fencing keeps livestock out of streams and riparian areas, protecting fragile stream banks from erosion, eliminating nutrients and sediments from these areas;

Nine CNMPs prepared—for the management of livestock operations in New York;

Five agricultural fuel storage systems have been constructed— to prevent ground and surface water contamination by agricultural fuels used in the barnyard area.

The Conservation Reserve Enhancement Program (CREP) is used to install buffers on rivers, streams and lakes. It is administered by the U.S. Department of Agriculture (USDA) Farm Service Agency and the Vermont Agency of Agriculture, with technical assistance provided by NRCS. This program, funded with approximately $2,500,000 from USDA and $800,000 from the State of Vermont, has resulted in over 1,330 acres (approximately 115 miles) of new riparian buffers in the Lake Champlain Basin, reducing edge-of-field delivery of pollutants to water bodies.

In the past five years, NRCS has received Congressional earmarks to assist producers in piloting new alternative technologies to address animal waste issues. Since then, $1,780,000 of NRCS funds have been used to demonstrate new manure management technologies. In 2004 NRCS entered into an agreement with the Poultney/Mettowee Natural Resources Conservation District (NRCD) to coordinate the projects and the Vermont Agency of Agriculture which contributes additional funds.

NRCS in Vermont also provided technical assistance to the Winooski NRCD in implementation of an EPA-funded Clean Water 104(b) work plan for Implementing Urban Stormwater Management Practices in the Potash and Allen Brook watersheds.

In New York’s South Lake area (Washington County) a 277-acre Grasslands Reserve Program (GRP) grazing contract was funded for rotational grazing and delayed haying and pasturing. Rotational grazing will allow the farmer to more efficiently manage pasture resources, while managing manure and preventing nutrients from entering the stream. Delayed haying and pasturing will protect the nests and fledglings of ground nesting songbirds.

U.S. Geological Survey

The U.S. Geological Survey (USGS) is conducting a long-term (1999–2010) study of the efficacy of urban best management practices (BMPs) in reducing phosphorus and sediment loads to Lake Champlain. This project investigates changes in water-quality conditions on Englesby Brook in Burlington, where the City of Burlington is utilizing funding from the Pine Street Barge Canal Superfund settlement to implement a number of urban BMPs. Water-quality sampling is conducted monthly and during storm events. Total funding for the project is estimated at $950,000, with 2004 funding at $139,000.

The USGS operates a network of 49 streamflow, lake, and reservoir gaging stations in the Lake Champlain Basin of Vermont and New York. Three lake gages and 17 tributary streamflow stations directly support water-quality studies in the Lake Champlain Basin. Since 2004, three gages have been established with various partners in Vermont to support stormwater management activities; they include Potash Brook in South Burlington, Allen Brook in Williston, and on Stevens Brook in St. Albans. Real-time data from this network also support flood forecasting, warning, and recreational uses. Long-term data from the network provide for improved knowledge of basin hydrology and streamflow characteristics needed for design and management decisions and flood hazard mitigation. USGS funding for the basin-wide network is $480,000 in 2006.

National Oceanic and Atmospheric Administration

With funding from the National Oceanic and Atmospheric Administration (NOAA), the Lake Champlain Sea Grant (LCSG) research initiative is providing urban watershed pollution prevention, reduction, and education activities to assist residents, local officials, businesses, and volunteer organizations to reduce phosphorous and other non-point source (NPS) pollutants from residential, institutional and business properties. Sea Grant is a partner in multiple education activities in the basin, working with local officials and volunteer organizations that have reduced fertilizer and other inputs in Englesby Brook, Burlington; Stevens and Ruggs Brook, St. Albans; and Mallets Bay, Colchester, Vermont. Sea Grant is the local partner in the 2004–2008 USDA funded New England Regional Water Quality Program, with activities in three of the regional focus areas: NPS pollution prevention, Non-point source Education for Municipal Officials (NEMO) and Sustainable Landscapes for Water Quality Protection. Sea Grant is a partner with 12 other municipalities and management agencies in the Regional Stormwater Education Program for Chittenden County, a designated Phase II stormwater community, to increase public awareness of stormwater issues and how to reduce NPS pollution at the household level. LCSG is a collaborator on the UVM Reinventing the American Neighborhood (RAN) project working with two communities/subdivisions in South Burlington, Vermont, to develop tools and approaches for community based stormwater management. LCSG provided technical and financial support for the Northwest (Vermont) Regional Planning Commission (NWRPC) production of a shoreline stabilization handbook for Lake Champlain and other inland lakes. The guide focuses on novel bioengineering approaches to erosion control and shoreline stabilization (with attendant phosphorous reduction benefits) that integrate well with expanding efforts to increase vegetative buffers and maintain natural setback zones.